

REMARKS

Claims 15 and 35 are amended. Claims 15-24 and 35-41 are pending in the application.

Claims 35-41 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner indicates that the recited "the silicon-comprising" lacks antecedent basis. Claim 35 is amended to recite "the monocrystalline silicon substrate material" which has proper antecedent basis at line 5. Accordingly, applicant respectfully requests withdrawal of the § 112 rejection of independent claim 35 and dependent claims 36-41 which depend therefrom.

Claims 15-24 and 35-41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited combinations of Mathews, U.S. Patent No. 5,658,829; Fukuyama, U.S. Patent No. 5,770,100; Sharan, U.S. Patent No. 5,747,116; Brown, U.S. Patent No. 5,780,359; Nagashima, U.S. Patent No. 5,129,958; and Chen, U.S. Patent No. 5,704,986. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 15-24 and 35-41 are allowable over the various cited combinations of Mathews, Fukuyama, Sharan, Brown, Nagashima and Chen for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every element in any of those claims.

As amended, independent claims 15 and 35 each recite removing a masking layer

or photoresist from a substrate and subsequently utilizing a plasma to remove a residue from an outwardly exposed silicon material, where the plasma is generated from a gas having active components consisting of one or more members of the group consisting of O₂, O₃, H₂ and NH₃. The amendments to claims 15 and 35 are supported by the specification at, for example, page 8, line 14 through page 9, line 2. Mathews discloses removing a masking layer 42 utilizing an oxygen etch and subsequent formation of sidewall facets utilizing a dry argon sputtering etch (col. 3, ll. 43-64). Mathews does not disclose or suggest the claims 15 and 35 recited removal of a masking material and subsequent plasma etching to remove a residue utilizing a plasma generated from a gas having active components consisting of one or more members of the group consisting of O₂, O₃, H₂, and NH₃.

Fukuyama discloses treatment of aluminum wiring films which can include treatment with an oxygen-comprising plasma to remove resist from the aluminum wire (abstract and col. 7, ll. 7-24). As combined with Mathews, the removal of resist from aluminum wiring disclosed by Fukuyama does not contribute toward suggesting the claims 15 and 35 recited removal of resist and subsequent plasma etching to remove a residue where the plasma is generated from a gas having active components consisting of one or more members of the group consisting of O₂, O₃, H₂ and NH₃.

As indicated at page 6 of the present Action, Sharan is relied upon as disclosing a monocrystalline silicon substrate. As indicated at page 8 of the present Action, Brown is relied upon as showing a stripping temperature of from 20° to over 100° C. As indicated at page 9 of the present Action, Nagashima is relied upon as showing utilization of ammonia and hydrogen gas can be utilized as reducing gas. As indicated at page 10 of the present

Action, Chen is relied upon as utilizing a first oxidant gas and chlorine during a cleaning process. However, as combined with Mathews and Fukuyama, the monocrystalline substrate disclosed by Sharan, the stripping temperature disclosed by Brown, the oxidant and chlorine cleaning process disclosed by Chen and the ammonia and hydrogen reducing gas disclosed by Nakashima fail to contribute toward suggesting the claims 15 and 35 recited removal of a masking material and subsequent removal of a residue from over a silicon material utilizing a plasma generated from a gas having active components consisting of one or more members of the group consisting of O_2 , O_3 , H_2 and NH_3 . Accordingly, independent claims 15 and 35 are not rendered obvious by the various cited combinations of Mathews, Fukuyama, Sharan, Brown, Chen and Nagashima and are allowable over these references.

Dependent claims 16-24 and 36-41 are allowable over the various cited combinations of Mathews, Fukuyama, Sharan, Brown, Chen and Nagashima for at least the reason that they depend from corresponding allowable base claims 15 and 35.

For the reasons discussed above claims 15-24 and 35-41 are allowable. Accordingly, applicant respectfully requests formal allowance of such claims in the Examiner's next action.

Respectfully submitted,

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